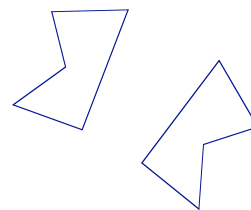


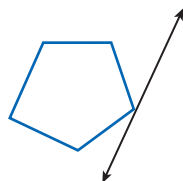
Name: _____ Block: _____ Date: _____

Geometry 9.1 Assignment: Reflections

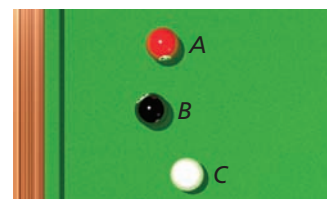
1. Does the transformation appear to be a reflection? Explain or why not. (Example 1)



2. Sketch the reflection of the figure across the line. (Example 2)

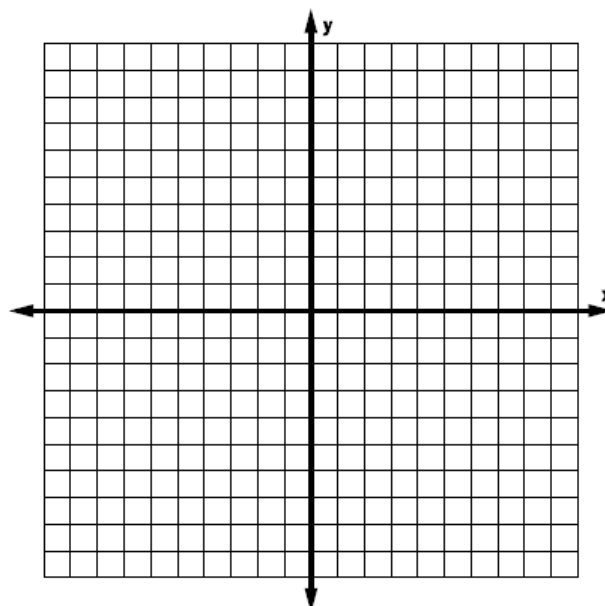


3. **Recreation.** Cara is playing pool. She wants to hit the ball at point A without hitting the ball at point B. She has to bounce the cue ball, located at point C, off the side rail and into her ball. Draw a diagram that shows the exact point along the rail that Cara should aim for. (Example 3)



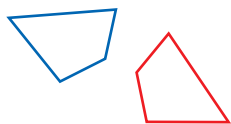
4. Graph A(-3, 2), B(0, 2), & C(-2, 0) and its reflection across the y-axis. (Example 4)

5. Complete the figure by drawing the reflection across the line.



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6. The shape shows the pre-image and image under a reflection. Sketch the line of reflection.



7. Use arrow notation to describe the mapping of $(-3, -6)$ when it is reflected across the line $y = x$.

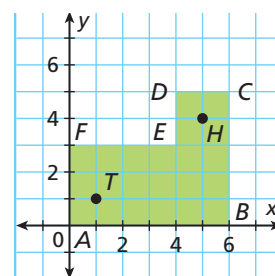
8. The figure shows one hole of a miniature golf course.



- a) Is it possible to the ball in a straight line from the tee T to the hole H?

- b) Find the coordinates of H' , the reflection of **H** across \overline{BC} .

- c) The point at which a player should aim in order to make a hole in one is the intersection of $\overline{TH'}$ and \overline{BC} . What are the coordinates of this point?



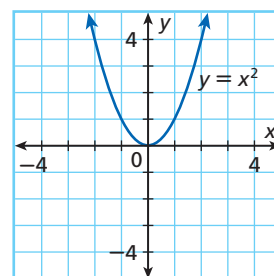
Critical Thinking.

9. Sketch the next figure in the sequence:



10. Under a reflection in the coordinate plane, the point $(3, 5)$ is mapped to the point $(5, 3)$. What is the line of reflection? Is this the only possible line of reflection? Explain why or why not.

11. Sketch the graph of the function when it is reflected over the x-axis.



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12. Write About It. Imagine reflecting all the points in a plane across line ℓ .

Which points remain fixed under this transformation? That is, for which points is the image the same as the preimage? Explain.

Find the coordinates of the image when each point is reflected across the given line.

13. $(4, 2)$; $y = 3$

14. $(-3, 2)$; $x = 1$

15. $(3, 1)$; $y = x + 2$

Three Similar Triangles

‘a’ is to ‘b’ as ‘d’ is to ‘e’ as ‘g’ is to ‘h’

Or synonymously speaking

$$\frac{a}{b} = \frac{d}{e} = \frac{g}{h}$$